Docket No.: 4006-003 PATENT

K. Ward 3/10/00 #15 Supp. Declaration

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Jinsaun CHEN

Serial No. 09/164,630

Filed: October 1, 1998

Group Art Unit: 2745

Examiner: VO

For: TRANSMITTER-RECEIVER SYSTEM FOR USE IN AN AUDIO EQUIPMENT

SECOND SUPPLEMENTAL RE-ISSUE DECLARATION

Honorable Commissioner for Patents
and Trademarks
Washington, D. C. 20231

Sir:

Jinsaun Chen declares and says as follows:

1. He is the inventor in the above entitled patent application and in that capacity executed a Supplemental Re-Issue Declaration on September 23, 1998 hereinafter referred to as "first Supplemental Re-Issue Declaration".

2. The error relied upon in the support of this re-issue application, to further explain and supplement his first declaration, is the issuance of the parent U.S. patent with a single claim to a transmitter-receiver system wherein the transmitter unit is described as comprising an automatic electric level regulator, a signal processing circuit and a dual oscillation frequency regulating circuit having a first variable resistor and a second variable resistor when in fact the dual oscillation frequency regulating circuit comprises a first variable capacitor, a second

variable capacitor and a variable resistor. In addition, the claim does not recite the components of the receiver unit either in combination with the transmitter unit or as a sub-combination.

3. These errors arose and in fact all errors which are being corrected in this re-issue application arose without any deceptive intention on his part. The errors arose because he is unfamiliar with the English language and relied upon Taiwanese counsel to prepare the application and claim. Taiwanese counsel was employed by Harvard Patent & Trademark Office with a place of business of, 10th Floor, No. 91, Roosevelt Road, Sec. 2, Taipei, Taiwan, R.O.C., and Taiwanese counsel is also unfamiliar with U.S. patent practice. The patent application specification then did not contain a complete explanation of the circuits shown in Figures 1 and 2. This error also occurred without deceptive intention on the part of applicant.

4. The error that renders U.S. Patent No. 5,722,050 wholly or partly inoperative on invalid resulted in a failure to claim the invention according to claims 2-10, 12, 14-17, 19-25, 28, 30-32, and 35-57 as follows:

2. (amended) A transmitter for a wireless transmitter-receiver system wherein the transmitter is coupled to audio equipment having an input terminal and an out put terminal to transmit an audio signal therefrom comprising:

an automatic audio level regulating circuit comprised of an audio regulating IC, having an input terminal adapted to be connected to the output terminal of said audio equipment to regulate the audio level of an output signal from said audio equipment to a predetermined range, and an output terminal;

a signal processing circuit having an input terminal connected to the output terminal of said automatic audio level regulating circuit, and an output terminal;

an [(external and internal)] external and internal dual adjustable oscillatory frequency regulating circuit comprising an oscillator transistor, and dielectric resonator, a first variable capacitor, a second variable capacitor [diode], and a variable capacitor diode, an input terminal connected to the output terminal of said signal processing circuit, and an output terminal; a [first intermediate] carrier frequency output being [at least about 10MHz] adjusted and set by said first and second variable [capacitor] capacitors.

an inductance antenna connected to the output terminal of said [(]external and internal[)] dual adjustable oscillatory frequency regulating circuit, said inductance antenna being a matching device; and

a power control circuit controlled by the output signal of said audio equipment to provide the necessary working voltage to said transmitter [unit], said power control circuit comprising a signal amplifier, a comparator and a transistor switch, so that when said signal amplifier receives an input signal from said audio equipment it drives said comparator and transistor switch permitting the connection of an external power supply or battery supply to said [transmitting unit] transmitter.

3. (amended) The invention of claim 2 wherein said transmitter [unit] can be used in a wireless audio transmitting and receiving system, or wireless microphone transmitting system.

7. (amended) The invention of claim 2 wherein said [(]external and internal[)] dual adjustable oscillatory frequency regulating circuit comprises an oscillatory transistor, a dielectric resonator, a first variable capacitor, a second variable capacitor, and a [second] variable capacitor diode, having an input terminal connected to the output terminal of said signal processing circuit, and an output terminal connected to said inductance antenna.

8. (amended) The invention of claim 7 wherein said [(]external and internal[)] dual adjustable oscillatory frequency regulating circuit comprises a first variable capacitor which is internally adjustable.

10. (amended) The invention of claim 7 wherein said [(]external and internal[)] dual adjustable oscillatory frequency regulating circuit has a [first intermediate] carrier frequency output [of at least 10MHz and] is adjustable by said first and second variable [capacitor] capacitors.

12. (amended) The invention of claim 2 wherein said inductance antenna is connected to the output terminal of said [(]external and internal[)] dual adjustable oscillatory frequency regulating circuit, said inductance antenna being a matching device.

14. (amended) The invention of claim 2 wherein said power control circuit is controlled by the output signal of said audio equipment to provide the necessary working voltage to said transmitter [unit].

15. (amended) The invention of claim 14 wherein said power control circuit comprises a signal amplifier, a comparator and a transistor switch said signal amplifier adapted to receive an input signal from said audio equipment, said comparator and transistor switch connecting an external power supply or battery supply and said transmitter [unit].

17. (amended) The invention of claim 2 wherein said transmitter [unit] processes an audio signal input in stereo.

19. (amended) The invention of claim 2 wherein said transmitter [unit] can be used with a plurality of receiving earphones or speakers simultaneously.

20. A receiver for a wireless transmitter-receiver system wherein the system transmitter includes an inductance antenna and is adapted to be coupled to audio equipment to transmit an audio signal therefrom through an inductance antenna comprising:

a receiving antenna adapted to receive an audio signal transmitted from an inductance antenna of said transmitter [unit].

an [(external and internal)] external and internal dual adjustable oscillatory frequency regulating circuit comprising an oscillatory transistor, a dielectric resonator, and a first variable capacitor, a second variable capacitor, and a variable capacitor diode, an input terminal connected to the output terminal of said receiving antenna, and an output terminal;

a signal processing circuit connected to said [(]external and internal[)] dual adjustable oscillatory frequency regulating circuit to process received signals and to provide a processed signal to said [earphone] receiver;

an automatic 24-time frequency divider circuit comprising a resistor and an oscillator , connected to [an] a first IC of said receiver signal processing circuit to divide the frequency of said received signal by 24, so as to provide a 19KHz three-dimensional demodulated signal; and

an auto-shut off circuit comprising [an] a second IC and a transistor, said transistor being controlled by said second IC to turn a power supply on/off.

21. (amended) The [invention] receiver of claim 20 wherein said [(]external and internal[)] dual adjustable oscillatory frequency regulating circuit comprises an oscillatory transistor, a dielectric resonator, a first variable capacitor, [and] a second variable capacitor and a variable capacitor diode.

22. (amended) The [invention] receiver of claim 21 wherein said [(]external and internal[)] dual adjustable oscillatory frequency regulating circuit has an input terminal

connected to the output terminal of said receiving antenna, and an output terminal connected to said signal processing circuit.

23. (amended) The [invention] receiver of claim 21 wherein said [()external and internal[])] dual adjustable oscillatory frequency regulating circuit includes [a] an adjustable frequency controller VR1 [adjustable externally by users].

24. (amended) The [invention] receiver of claim 21 wherein said [()external and internal[])] dual adjustable oscillatory frequency regulating circuit has a first intermediate frequency at least above 10MHz.

[frequency regulating circuit has the capability to broadly adjust the frequency, and to downconvert]

25. (amended) The [invention] receiver of claim 21 wherein said [()external and internal[])] dual adjustable oscillatory frequency regulating circuit provides a local oscillatory frequency that can be broadly adjusted without a conventional SAW and which fixes [the] a first local oscillatory frequency and adjusts [the] a second local oscillatory frequency.

28. (amended) The [invention] receiver of claim 27 wherein said signal processing circuit is capable of processing received signals and providing processed signals to said receiver [unit].

30. (amended) The [invention] receiver of claim 27 wherein said signal processing circuit is capable of demodulating stereo audio signals to provide high fidelity 19KHz multi-demodulating signals.

31. (amended) The [invention] receiver of claim 20 wherein said auto-shut off circuit [is comprise of] comprises an integrated circuit and [transistors] a transistor, said auto-shut off circuit being controlled by the second IC [of said auto-shut off] to automatically turn an external power supply or battery supply on and off.

32. (amended) The [invention] receiver of claim 31 wherein said auto-shut off circuit can automatically turn on said receiver [unit] when it receives an audio signal and automatically turn off said receiver [unit] when it receives no audio signal after a predetermined period of time.

35. (amended) The [invention] receiver of claim 20 wherein said receiver[unit] is housed in an earphone.

36. (amended) The [invention] receiver of claim 20 wherein said receiver [unit] can be used in a wireless audio receiving speaker, [and wireless microphone].

37. (amended) The receiver of claim 21 wherein said receiver unit[, being wireless, can be positioned or relocated from place to place by users] is portable.

Add claims 38-56 as follows:

38. A transmitter for a wireless transmitter-receiver system wherein the transmitter is adapted to be coupled to audio signal generating equipment to transmit an audio signal therefrom and to a power supply comprising:

an automatic audio level regulating circuit including an audio regulating IC, having an input terminal adapted to be connected to said audio equipment to regulate the audio level of an output signal from said audio equipment to a predetermined range, and an output terminal;

a signal processing circuit having an input terminal connected to the output terminal of said automatic audio level regulating circuit, and an output terminal;

an external and internal dual adjustable oscillatory frequency regulating circuit comprising an oscillator transistor, and dielectric resonator, a first variable capacitor, a second variable capacitor, and a variable capacitor diode, an input terminal connected to the output

terminal of said signal processing circuit, and an output terminal; a carrier frequency output being [at least about 10MHz] adjusted by said first and second variable capacitors;

an inductance antenna connected to the output terminal of said external and internal dual adjustable frequency regulating circuit, said inductance antenna being a matching device; and

an automatic power control circuit controlled by the output signal of said audio equipment to provide the necessary working voltage to said transmitter unit, said power control circuit comprising a signal amplifier, a comparator and a transistor switch, so that when said signal amplifier receives an input signal from said audio equipment it drives said comparator and transistor switch permitting the connection of an external power supply or battery to said transmitter.

39. The transmitter of claim 38 wherein said automatic audio level regulating circuit comprises an audio level regulating IC, having an input terminal adapted to be connected to an output terminal of said audio equipment to regulate the audio level of the output signal of said audio equipment to a predetermined range, and an output connected to said signal processing circuit.

40. The transmitter of claim 38 wherein said signal processing circuit has an input terminal connected to the output terminal of said automatic audio level regulating circuit, and an output terminal connected to said external and internal dual adjustable oscillatory frequency regulating circuit.

41. The transmitter of claim 38 wherein said signal processing circuit comprises a 3-dimensional signal multi-regulating circuit through which pilot signals can be regulated and transmitted to said external and internal dual adjustable oscillatory frequency regulating circuit.

42. The transmitter of claim 38 wherein said external and internal dual adjustable oscillatory frequency regulating circuit comprises an oscillatory transistor, a dielectric resonator, two variable capacitor VCA and VCB, and a variable resistor VR1, having an input terminal connected to the output terminal of said signal processing circuit, and an output terminal connected to said inductance antenna.

43. The transmitter of claim 42 wherein said external and internal dual adjustable oscillatory frequency regulating circuit comprises VCA and VCB are adjustable by adjusting VR1.

44. The transmitter of claim 42 wherein said external and internal dual adjustable oscillatory frequency regulating circuit has a carrier frequency output being adjusted and set by said first and second variable capacitors.

45. The transmitter of claim 42 wherein said inductance antenna is connected to the output terminal of said external and internal dual adjustable oscillatory frequency regulating circuit; said inductance antenna being a matching device.

46. The transmitter of claim 42 wherein said power control circuit is responsive to an output signal of said audio equipment to provide the necessary working voltage to said transmitter.

47. The transmitter of claim 42 wherein said automatic power control circuit comprises a signal amplifier, a comparator and a transistor switch, said signal amplifier adapted to receive a signal from said audio equipment, said comparator and transistor switch connecting an external power supply or battery and said transmitter.

48. The transmitter of claim 42 wherein said power control circuit is controlled automatically by an audio signal from said audio equipment or manually.

49. The transmitter of claim 42 wherein said transmitter processes an audio signal input into stereo.

50. A receiver for a wireless transmitter-receiver system wherein the system includes a transmitter adapted to be coupled to audio equipment to transmit an audio signal therefrom through an inductance antenna comprising:

a receiving antenna adapted to receive an audio signal transmitted from the inductance antenna of said transmitter;

an external and internal dual adjustable oscillatory frequency regulating circuit comprising an oscillatory transistor, a dielectric resonator, and two variable capacitors VCA and VCB, and input terminal connected to the output terminal of said receiving antenna, and an output terminal;

a signal processing circuit connected to said external and internal dual adjustable oscillatory frequency regulating circuit to process received signals and to provide a processed signal to said headphones or speakers;

an automatic 24-time frequency divider circuit comprising a resistor and an oscillator connected to a first IC of said receiver signal processing circuit to divide the frequency of said received signal by 24, so as to provide a 19KHz three-dimensional demodulated signal; and

an auto-shut off circuit comprising a second IC and a transistor, said transistor being controlled by said IC to turn a power supply on/off.

51. The transmitter of claim 50 comprising an external and internal dual adjustable oscillatory frequency regulating circuit identical to that of said receiver.

52. The receiver of claim 50 wherein said external and internal dual adjustable oscillatory frequency regulating circuit includes a variable resistor to adjust the frequency of a received signal externally.

53. The receiver of claim 50 wherein said external and internal dual adjustable oscillatory frequency regulating circuit provides a local oscillatory frequency that can be broadly adjusted without a conventional SAW and which fixes a first local oscillatory frequency and adjusts a second local oscillatory frequency.

54. The receiver of claim 50 wherein said signal processing circuit is capable of demodulating stereo audio signals to provide high fidelity 19KHz multi-demodulating signals.

55. The receiver of claim 50 wherein said auto-shut off circuit is controlled by the second IC to automatically disconnect or connect said receiver and an external power supply or battery.

56. The receiver of claim 50 wherein said auto-shut off circuit can automatically activate said receiver unit when it receives an audio signal and automatically deactivate said receiver unit when it receives no audio signal.

57. The receiver of claim 50 wherein said receiver is portable.

March 3, 2000
Date

Jinsaun Chen